

## The Effect of *Finger Painting* towards the Ability of Beginning Writing for Mild Intellectual Disability Students

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**Abstract:** Students with intellectual disability have obstacles in motoric maturity. Finger painting is used to prepare motoric maturity for beginning writing. This research describe: (1) pre-intervention of writing skill, (2) beginning writing skills after intervention, (3) effect of finger. Experimental research with Wilcoxon test. The result is that there is effect of finger painting. The calculation is obtained by  $T_{count} = 0$ ,  $\alpha = 0,05$ ,  $n = 6$ ,  $T_{table} = 2$ .  $H_0$  is rejected and  $H_a$  is accepted because  $T_{count} (0) \leq T_{table}$ . (4) The conclusion is that the average value of pre-test is 39 and the average post-test is 73. Thus, there are effect of finger painting towards the ability of the beginning writing of the students with intellectual disability.

**Keywords:** Intellectual disability, Finger Painting, Beginning Writing

### INTRODUCTION

Nowadays, Education becomes a necessity for human life to ensure its survival to be more dignified. The government is obliged to provide quality services to all citizens without exception as stated in the 1945 Constitution (amendment) Article 31: paragraph (1): Every citizen has the right for education, paragraph (2): Every citizen must follow basic education and the government is obliged to finance it. The same as stated in Law No. 20 of 2003 Article 32 paragraph 1 of the National Education System also emphasized that "Special education is education for students who have difficulty in following the learning process due to physical, emotional, mental, social disabilities and/or potential intelligence and special talents."

Intellectual disability is included in one of the students with special needs. According to Bratanata (1979) a student is classified to be Intellectual disability if he has such a low level of intelligence (below normal), so that, to examine the task of development requires specific assistance or services including in the education program. Based on the gradation level of intellectual disability disorders, students with intellectual disability can be grouped into capable: of educating (debil), training (imbecile), caring (idiots). Students with mild intellectual disability can still be taught to learn to read, write and count simply. These three aspects are the initial foundation for the students to gain knowledge in elementary school level.

Writing is a very important language skill in everyday life. This skill is very easy to learn by regular students but it is very difficult for intellectual disability students because they have barriers such as cognitive (perception, memory, language etc.), motor (gross and fine motor) and social adjustment. Due to obstacles in cognitive, social and motor abilities, according to

Efendi (2009) "abnormalities or disturbance of sensory devices in a person (mental subnormal), it means that they have lost most of the time to abstract events in his environment accurately, so that, the children experience difficulties in using language and language understanding".

Fine motor skills include movements that involve small muscles such as movements that involve the fingers of the hand. To be able to optimize fine motor skills in motion is influenced by learning and practicing opportunities. Therefore, routine and gradual exercises are needed for intellectual disability students to support the next writing stage. Before giving exercises of beginning writing skills, the teacher develops fine motor development firstly. Helmi & Zaman, (2009) states that writing requires muscular control, eye-hand coordination, and visual discrimination. Activities that support muscular control is including cutting, coloring finger painting and tracing. Eye-hand coordination activities includes making circles and copying geometric shapes. Meanwhile, the development of visual discrimination can be done with the activities of differentiating the shape, size, and details. So, the students realize how to write a letter.

Based on the findings in the field there are still many intellectual disability students who have problems in learning beginning writing starting from the teacher's teaching way is still lack of creativity and instructional media that are not able to attract students' motivation to follow learning so that the students tend to get bored quickly. these problems that can be seen from the results of student writing such as formless letters, messy, out of line, large and small, and not straight, the way they hold a pencil, and there are still students who need to be given help by the teacher.

**Table 1. Post-test Result of Beginning Writing Ability**

No	Name	Value	Average
1.	MS	71	71
2.	SPY	71	
3.	AFA	74	
4.	BCW	68	
5.	VAD	73	
6.	RA	67	
Sum		424	

**Table 2. Pre-test Result of Beginning Writing Ability**

No	Name	Value	Average
1.	MS	41	38
2.	SPY	40	
3.	AFA	39	
4.	BCW	29	
5.	VAD	40	
6.	RA	38	
Sum		227	

Therefore, it can be concluded that teachers are encouraged to be more creative in providing fun learning in order to generate interest in learning for students. Based on these characteristics, fingerprint learning may be one of the fun and safe learning solutions. This is in accordance with the results of a previous study conducted by Martadini (2015) which examined the effect of the game finger reel to improve the ability to write letters on intellectual disability students.

Finger painting is one of the activities that can train fine motor skills in students because finger painting activities focus on students' hand movements to paint colors on paper freely. According to Salim & Salim (1991) "finger painting is a technique of painting by applying paint to wet paper with fingers or palms".

Based on the description of the problem above, it can be formulated in a research plan with the title: "The Effect of Finger Painting towards the Beginning Writing Ability for Students with Intellectual Disability in SDLB (Special Elementary School) Kepanjen".

## METHOD

This quasi or pseudo experiment research is aimed at examining whether or not the effect of finger painting towards the ability of beginning writing for intellectual disability students in SDLB.

The method used is the Pre-experimental method. According to Sugiyono (2015), "the pre-experimental research results are that dependent variables are not solely affected by independent variables." This can

happen, because there are no control variables, and the sample is not chosen randomly. The research design is a design of how the research is carried out.

The research design used is one group pretest posttest. In this design, before giving the treatment, firstly, the sample is given a pretest (initial test) and at the end of the learning sample is given a posttest (final test). This design is used in accordance with the aim of knowing the effect of finger painting on the ability to write beginning of intellectual disability students in SDLB.

Population is a generalization area consisting of: objects / subjects that have certain qualities and characteristics determined by researchers to be studied and then drawn conclusions (Sugiyono, 2015). As for the population in this study were mild intellectual disability at SDLB. The sample is part of the number and characteristics of the population (Sugiyono, 2015). The sample in this study were 6 students taken from all intellectual disability at SDLB.

The data is the analysis of descriptive statistical data by presenting data through tables, graphs, and percentage calculations. And the hypothesis test uses the Wilcoxon test.

## FINDINGS AND DISCUSSION

### Findings

#### *Descriptions of Beginning Writing Ability before Giving Treatment By Utilizing Finger Painting (Pre-Test)*

The pre-test was conducted in grade II of intellectual disability in SDLB Kepanjen. At the time of the pre-test condition, the students were given an explanation of how to do the exercises that was given and what material was listed in the pre-test problem. However, at the time of the pre-test students still find it difficult to solve the problem. The data on the results of the pre-test that has been done before receiving treatment are shown in table 2. Pre-test results of students' initial ability to write beginning before treatment with finger painting were obtained that the highest value was 41 and the lowest value was 29.

#### *Descriptions of Beginning Writing Ability after Giving Treatment by Utilizing Finger Painting (Post-test)*

Post-test was given after students get treatment twice in learning by using finger painting to improve the skill of beginning writing.

Table 1, It is known that the post-test learning outcomes of the ability to write beginning of intellectual disability students in the grade II at SDLB Kepanjen was 74 for the highest value and 67 for the lowest one. It can be concluded that all students have increased learning outcomes after receiving treatment twice.

**Table 3. Comparison Result of *Pre-test* and *Post-test***

No	Name	Pre-test Value	Post-test Value
1	MS	41	71
2	SPY	40	71
3	AFA	39	74
4	BCW	29	68
5	VAD	40	73
6	RA	38	67
Sum		227	424
Average		38	71

**Table 4. Data Analysis of Wilcoxon Test**

No	Value				Sign	
	Pre-test (X)	Post-test (Y)	Y-X	Rank	Positive	Negative
1	41	71	30	2	+2	0
2	40	71	31	3	+3	0
3	39	74	35	5	+5	0
4	29	68	39	6	+6	0
5	40	73	33	4	+4	0
6	38	67	29	1	+1	0
Sum					T=21	T <sub>count</sub> =0

#### Data Analysis Results

After knowing the results of the pre-test and post-test scores, a recapitulation is performed which is useful to determine whether there is an increase in learning outcomes after treatment. Table 3 is the recapitulation of the pre-test and post-test scores.

As a whole, the data from table 3, 6 students experienced an increase in beginning writing skills. This increase in learning outcomes can be seen through the results obtained at the time of the post-test marked by higher scores than at the time of the pre-test.

Based on Wilcoxon test calculation as in table 4, it was obtained the value of learning outcomes which showed an increase with the highest value of 74 and the lowest value of 67. The pretest and posttest scores of all children did not have a negative difference (-), then all children were given a positive sign (+). Then the rankings with positive and negative marks are added together, then the results of the smallest sum are made as  $T_{count}$ . Based on the calculation, the value of  $T_{count} = 0$ , which is the lowest absolute value. The critical value for the Wilcoxon test  $\alpha = 0.05$  and  $n = 6$  (number of samples) is from the Wilcoxon test list obtained  $T_{table} = 2$ .

#### Hypothesis test

Hypothesis testing in a study is the most important thing because it is needed to test the truth of a hypothesis proposed in research.

The hypothesis proposed in this study "The effect of finger painting towards the ability to write the beginning of intellectual disability students in SDLB Kepanjen". To test  $H_1$  is that  $H_1$  is accepted if  $T_{count} \leq$  from  $T_{table}$

Based on calculations through the Wilcoxon test with  $n=6$  at a significant level of 0.05 was obtained  $T_{table}=2$ , then  $H_1$  was accepted because  $T_{count} (0) \leq T_{table} (2)$  means that the proposed hypothesis was accepted. This shows that the use of finger painting has an effect on improving the ability to write the beginning of intellectual disability students in Kepanjen SDLB.

#### Discussion

Based on the results of the pre-test before being given treatment, there are some students who experience confusion working on the questions given as they find difficulty to copy the words listed in the problem according to the instructions, as result they get a low pre-test score. According to Somantri (2012) "they can still learn to read, write and count simple". In the learning process a intellectual disability child is able to understand simple learning and needs to be assisted by the media to make them easier to understand.

In research there are some students who are still stiff in grasping, so that, they always find difficulty to move their finger. Fine motor plays a role in the flexibility of the fingers in activities especially in writing activities, in line with Lerner's statement in Abdurrahman (2012) "there are several factors that influence children to write, (1) motor, (2) behavior, (3) perception, (4) the ability to understand instruction "the condition of students who rarely move their fingers in their activities makes it difficult for students to move pencils in writing with shapes. As mentioned in the initial conditions before being given treatment, students have difficulty completing the question sheets. lack of movement of the fingers in his daily life. So, when given a pre-test to determine the initial ability of students before being given treatment, the results of the average value obtained was 38, surely, it is very low from the number of subjects of 6 students with intellectual disability in the grade II of SDLB BC Kepanjen. When doing pre-test, the students can not move pencil with shape, write inverted letters.

The condition after being given treatment twice, the ability of intellectual disability students of grade II SDLB BC KEPANJEN in the beginning writing has got improvement. This is indicated by student learning outcomes (post-test) which improved after being given

treatment compared to student learning outcomes before being given treatment (pre-test), in the learning process students also looked enthusiastic in writing.

Helmi & Zaman, (2009) states that writing requires muscular control, eye-hand coordination, and visual discrimination. Activities that support muscular control include cutting, coloring finger painting and tracing. Eye-hand coordination activities include making circles and copying geometric shapes. Meanwhile, the development of visual discrimination can be done with the activities of differentiating the shape, size, and details. So, the students realize how to write a letter.

Based on the above statement it can be concluded that finger painting affects the results of beginning writing for intellectual disability students in grade II at SDLB BC Kepanjen as evidenced by the analysis of learning outcomes (post-test) of 6 subjects with the following values 71,71,74,68,73, 67. Compared to the pre-test at 41,40,39,29,40,38.

Intellectual disability students have many problems, especially problems in learning. Most of the intellectual disability students' learning problems are in writing caused by stiff hands to be moved, finger painting is felt appropriate because students can practice the movements of fingers with maize flour and food coloring with fun activities that can attract and engage students with intellectual disability directly in its application.

Finger painting in the beginning writing ability of learning outcomes for intellectual disability students in grade II at SDLB BC Kepanjen. Based on the results of hypothesis testing shows that there are differences in learning outcomes on the use of finger painting on the beginning writing ability of students with intellectual disability in the grade II. From table 4.1 it is known that the average pre-test 38 and the average post-test 71 by comparing the average value of writing skills the beginning before and after applying finger painting. In table 4.3 it can be concluded that the use of finger painting has an effect on the results of the beginning of writing for students with intellectual disability students in grade II.

According to Delphie (2006) "healing techniques for children with intellectual disability, in this case especially children with developmental barriers should use various forms of media play" In accordance with the theory that has been taught learning using finger painting can improve the quality of learning outcomes due to learning done is not only using the media but also with fun activities such as using finger painting games that is visually interesting.

Based on the results of the analysis it can be stated that the research findings are that there is an effect of the finger painting usage on the ability to beginning

writing for intellectual disability students in grade II at SDLB BC Kepanjen. After being given treatment three times, the learning outcomes of students through pre-test has increased compared to before being given treatment.

## CONCLUSIONS

Based on the results of the research that has been carried out it can be concluded as follows: (1) The ability to write the beginning of 6 intellectual disability students in the grade II of SDLB BC Kepanjen before being given treatment get scored 39. Even some students were still difficulty in moving a pencil. (2) The ability to write the beginning of intellectual disability students at SDLB BC Kepanjen after being treated twice using finger painting media has increased. This can be proven by the average value of the post-test which has increased to 73. (3) There is the effect of finger painting towards the ability of beginning writing of intellectual disability students in grade 2 at SDLB BC Kepanjen.

Based on the results of hypothesis testing shows that there is a significant difference between the ability to write the beginning before and after being given treatment using finger painting that is the calculated  $T_{\text{value}} < T_{\text{table}}$  then  $H_1$  is accepted and  $H_0$  is rejected.

Based on the activity of the research conducted, the researchers propose a number of suggestions as follows: (1) For further researchers, it is recommended to be able to continue the research by using finger painting media but not only limited to writing the beginning, this finger painting can also be used to train students in introducing color, number shape. (2) For teachers, it is recommended to apply learning by using finger painting in practicing fine motor skills especially for children to introduce letters and how to write them so that the students are interested in improving achievement in beginning writing. In addition, it is expected that teachers can utilize finger painting in other learning in the classroom.

## REFERENCES

- Abdurrahman, M. (2012). *Anak Berkesulitan Belajar*. Jakarta: PT. Rineka Cipta
- Bratanata, S. A. (1979). *Pendidikan Anak Terbelakang Mental*. Jakarta: Depdikbud.
- Delphie, B. (2006). *Terapi Permainan*. Bandung: Rizqi Press
- Efendi, M. (2009). *Pengantar Psikopedagogik Siswa Berkelainan*. Jakarta: PT Bumi Aksara.
- Helmi, D. R., & Zaman, S. (2009). *12 Permainan untuk Meningkatkan Intelegensi Siswa*. Jakarta: Visi Media.

- Martadini, E. (2015). *Pengaruh permainan finger painting untuk meningkatkan kemampuan menulis huruf pada peserta didik tunagrahita sedang di SDLB/C Shanti Kosala Mas Trip Nganjuk* (Doctoral dissertation, Universitas Negeri Malang).
- Salim, P., & Salim, Y. (1991). *Kamus bahasa Indonesia kontemporer*. Edisi Pertama.
- Somantri, S. T. (2012). *Psikologi Siswa Luar Biasa*. Bandung: PT. Refika Aditama
- Sugiyono. (2015). *Metode Penelitian Pendidikan*. Bandung: ALFABET.